130V-1

CAREERS IN AGRICULTURAL MECHANICS

AG 130-V

UNIT OBJECTIVE

After completion of this unit, students will know and understand the different career opportunities available to them as high school graduates, two-year college graduates, and four-year college graduates.

SPECIFIC OBJECTIVES AND COMPETENCIES

After completion of this unit, the student should be able to:

1. Explain the importance of work to the individual and society.
2. Identify 12 potential agriculture or agriculture-related careers.
3. Identify 4 potential local agriculture or agriculture related careers.
4. Describe economic and technological trends which may affect the work environment.
5. Identify ways in which employees may have to adapt to a changing work environment.
6. Identify and describe a career interest in an ag or ag related occupation.
7. Analyze the skills, abilities and education required to gain entry into the students occupational choice.
8. Develop an appreciation for reasons workers could be fired from their jobs.

IMPORTANCE OF WORK

A. The Importance of Work to the Individual.

1. The "work ethic" is a code of values that says that work is good in itself. This idea originally came from the Pilgrims.
2. Our ancestors like the pilgrims and indians had to work to survive.
3. Working gives the individual a sense of pride and self worth.

    a. If you have done your job to the best of your ability, you should be proud of that work, knowing that you are working to your potential.

B. The Importance of Work to Society.

1. Every occupation serves some purpose and is useful.
2. Individuals should value the work they do and respect work done by others.
3. New inventions, techniques and devices are created by individuals working together.
4. Work by individuals benefits our society and makes our country's economy stronger by contributing not only quality work, but spending your income to purchase the products of other American's work

AGRICULTURE CAREERS

A. Importance of Agriculture Careers

1. Approximately 1/2 of all workers in Idaho work in jobs directly or indirectly related to agriculture.
2. Remember that Idaho is number one in the nation in potato production, ninth (and still climbing) in dairy production. (Based on 1998 statistics.)
3. Agricultural occupations range from flower production to meat processing, providing a great variety of career options.

B. Career Areas

1. Ag careers can be grouped into 8 general career areas:

    a. Production Agriculture: This involves actually raising field crops, poultry, fruit, vegetables, or livestock.

b. Agriculture Mechanics: This involves planning and constructing buildings, machinery maintenance, welding, electrical work and plumbing.
c. Agriculture Sales and Service: This involves occupations such as veterinarian, farrier, ag commissioner, equipment dealers, feed dealers, ag flying.
d. Agriculture Processing: Involves processing and distributing food. Examples are butchers, egg processing, plant workers, cheese processing workers.
e. Horticulture: Involves landscaping, floriculture, turf management, and nursery management.
f. Forestry: Involves producing and harvesting timber, managing forests and reforestation .
g. Rural Recreation and Natural Resources: Involves working with renewable resources such as wildlife, water and soil.
h. Agricultural Marketing and Business Management: Involves business economics related to agriculture, developing markets for agricultural products and successful marketing of those products.

C. Local Careers

1. Careers available in agriculture in your area depend upon different factors including:

    a. Population: rural areas have more production ag and urban areas usually have more processing and horticulture.
    b. The climate and rainfall influences crops and livestock produced in the area; which may affect availability of certain supplies and services.
    c. Consumer demand - may influence the types of crops grown and types of ag employment available.

2. Your career choice should be reflected in your choice of SOE. For example:

    a. a lamb, beef or swine production SOE project would be of great benefit if your career goal is to be livestock producer.
    b. a work experience SOE in a feed store or vet clinic would benefit if you plan a career in sales and service or marketing and management.
    c. Building an equipment trailer would benefit someone who wanted a career in ag mechanics.

ACTIVITY:

1. Read chapter 1 in the FFA Student Handbook on Careers.
2. Have students make up a bulletin board displaying different careers in ag in your local area.

TRENDS IN CAREER OPPORTUNITIES

I. Economic trends in Agriculture

A. Ag careers are affected by changes in the agriculture economy.

1. Consumer preferences: as consumer tastes and desires change so do the career opportunities available.

a. For example: Poultry production and processing careers have expanded due to the health conscious consumer choosing poultry over beef and pork.

2. Imports: as we import goods, this changes career opportunities available.

a. For example: Sheep and lamb production has declined in the US due to cheaper imports from countries such as Australia and New Zealand.

3. Surpluses: when more raw materials are produced than are consumed we have a surplus. This often leads to new uses for this product.

a. For example: Gasahol was partially developed to utilize our surplus grains.

4. Government Support: Some crops and livestock receive price supports and this may create interest in that area.

B. Technological Trends in Agriculture

1. Ag careers have expanded due to great changes in technology. However, this same technology has out-dated many types of ag labor.

a. Mechanization: this type of technology utilizes machine power to replace human and animal power.
b. Computerization: has stream lined many farm operations.

    1) For example: Nutritionists utilize computers to develop balanced rations for livestock.

c. Biotechnology has allowed rapid changes in new crop developments.

    1) For example: Genetic engineering and plant tissue culture have improved our crops dramatically.

d. Continued Education: now more than ever before, because of technology advanced training either through formalized education or in depth on-the-job training is required for many ag occupations.

ACTIVITY:

1. Ask local agribusiness people to discuss with the class what they are looking for in an employee today as compared to 10 years ago.
2. Discuss how jobs in Ag have changed over the last 20 years and where careers in ag will shift in the future.

CHOOSING A CAREER GOAL

A. Education requirements differ with the career you choose. Here are some types and examples of education beyond high school.

1. Vocational Institutes: Train students in areas such as diesel mechanics or horse shoeing. Courses are intensive and rely heavily on practical experience and may be completed in 1 year.
2. Community colleges provide continued education to prepare students to go on to a university or receive enough training in certain areas to obtain jobs.

    a. A larger variety of classes can be taken than at a Vocational Institute.
    b. A program of study is generally completed in 2 years.

3. State colleges and universities require 4 years to complete and allow students opportunities to obtain employment in areas such as engineering, education, nutrition and economics.

    a. A 4 year degree can broaden job opportunities and increase wage earning power.
    b. A degree of this type can lead into graduate work to obtain an advanced degree such as PhD, MD, DVM or MBA.

JOB RELATED ETHICS

A. Introduction

1. Ethic: " a philosophy or systems of morals; ethics" It is a code of behavior, or an idea of how one should act in a situation.
2. Ethics related to your job mean the code of behavior you follow for work. Examples of job related ethics could include:

    a. Showing up on time to work
    b. Never taking a longer break than you are supposed to
    c. Not "borrowing" tools and equipment that are not yours to borrow
    d. Not using the company telephone to make long distance calls to friends just to visit.

3. What is the value of possessing job related ethics?

    a. It may help you keep your job. (For those who constantly abuse the rules and regulations, long term employment at one place may not ever happen.)
    b. Those who live within the rules of the job and remain honest and responsible will earn the respect of their co-workers and employers.
    c. Even more important, this kind of person has respect for him/herself. This can mean a lot in productivity, job satisfaction, and JOB PROMOTION!

DOING YOUR JOB WELL

A. Introduction

Once you have obtained a job you must keep it. There are two thing you should consider when thinking about keeping your job, the first is how you might evaluate your own performance and the second is to consider how or why workers are fired from their jobs, and see to it that you avoid such habits and attitudes yourself.

B. Why do people lose their jobs? There are many reasons, here are a few:

1. late for work;
2. make costly mistakes, or break things, or abuse and break tools;
3. laziness, that is, they just don't try very hard, or move very fast;
4. If they are working with the public, they are impolite, inattentive; or otherwise treat the paying customer badly;
5. do not follow the directions of the supervisors and/or employer;
6. don't get along or cooperate with fellow workers;
7. not making an effort to learn on the job;
8. talking about the company in a negative manner to friends, co-workers, and customers;
9. not dressing appropriately for the job;
10. not using initiative, needing to be told constantly what is to be done (usually goes along with laziness);
11. depending on co-workers to perform tasks that you should do; and
12. calling in with excessive excuses for missing work, "my car broke down, I can't make it in,"(truthfully - I just didn't feel like coming in today) or "I'm really sick today" (truthfully - there is a great sale at Macy's that I just can't miss), etc.

C. Am I a good employee? It comes down to five questions:

1. Am I working to the best of my ability? When you say you have done a job or task to the best of your ability, are you telling the truth?
2. Am I honest with my boss and myself? If you tell the boss you are sick, are you truly sick?
3. Am I fair to my boss and my fellow workers and treat them with the respect they deserve? Do you give them the same respect you would like to receive, and not indulge in idle chatter and gossip about co-workers or the employer?
4. Am I representing myself and my employer favorably with the public (or whomever you work with). Do you meet the public politely and cheerfully, and try to make sure the customers are satisfied?
5. Am I using or abusing the privileges extended to me by my employer? This could include breaks, discounts on goods, sick days, etc.?

Activities:

1. Describe a situation in which an employee who is in sales offends a customer by telling the customer that what he she is buying is not suitable, (use any item you choose, landscape plants, livestock feed, tools, etc). Have two students role play and have the class offer suggestions on how the situation might be handled in a positive manner.
2. Have students make up a list of employee behaviors which might cause customers and/or employers to become angry. Opposite each situation, list another behavior which might make the customer and/or employer less angry.
3. Set up a panel discussion with three employers in the area. Ask them to each comment on what it takes to be a productive employee, how they handle occasional and persistent lateness on the job, how they go about hiring and firing, and the reasons for hiring and firing. This panel could be set up in the multi- use room and other students could be invited (part of an employment fair, career day, etc, or at least try to obtain release time for all agriculture students to attend. Have them each summarize the important points and turn it in for grading.

CAREER OPPORTUNITIES IN WELDING

A. Welders in American Industry

1. There are over 550,000 welders employed in American industry
2. Approximately three fifths of welders work in industries that manufacture equipment for construction, agriculture, transportation, and households. The remainder work in repair shops and construction.

B. Career Requirements and Outlook

1. The demand for qualified welders is increasing in Idaho. Experienced welders are needed in equipment manufacturing, construction, and repair in nearly every major industry.
2. Education and essential skill upgrading are requirements for top employment as a welder. This educational training varies from a few months of on-the-job training to several years of formal training. The key skill is to be able to weld at a high quality level.
3. Welders need to be free of any physical problems that would prevent them from bending and working in awkward positions. Good eyesight and steady eye-hand coordination are required. Welders frequently have to spend long periods of time on detailed work.
4. Qualifications/Certification

a. If a welder does any type of code work, he/she must pass a series of qualifying tests in order to become certified.
b. These qualifying procedures are designed to meet a set of standards that mainly deal with work quality. In order to pass qualifying examinations, the welder must produce test welds that indicate a mastery of the technical skills of various types of welds.

Activity:

1. Visit local welding shops and observe the types of welds being done and the types of equipment being used. Report on the adequacy or inadequacy of safety practices employed by working welders.
2. Visit a welding supply store to determine the types of equipment readily available and the costs of this equipment.

Reference: "

A Practical Manual for Job-Hunters and Career Changers: What Color is Your Parachute?" by Richard Nelson Bolles

Cooper, Elmer L. (1997). AGRICULTURAL MECHANICS: FUNDAMENTALS AND APPLICATIONS, 3ed EDITION. Albany, NY: Delmar Publishers.

Agricareers http://www.agricareers.com
Gives a listing of ag jobs that are available in the ag industry, good for career lesson plan

Agco, http://www.agcocorp.com/
The AGCO site offers a lot of educational information about tractors and implements. The site also gives the history of the AGCO corporation.

John Deere Employment Opportunities, http://www.deere.com/ag/agtech/techprgm.htm
This site contains pages on how to get into John Deere ag. mechanics programs in different colleges.

Lincon Electric, http://www.lincolnelectric.com/
Welding Safety, Etc. (Order free poster)

Americian Welding Society, http://www.amweld.org/
A wealth of welding information, links to other related sites.

Hobart Institute of Welding Technology, http://www.welding.org/
Order materials on-line.

Caterpillar, http://www.cat.com
Caterpillar tractor information and news and latest equipment

Agsafe, http://www.agsafe.org/series_1/machine.html
Ag safety news and updates

Detroit Diesel http://www.detroitdiesel.com/welcome.htm
Talks about the Detroit motor and all the products that they deal with

Lumber, http://www.lumber.com
Talks about forest products and what is made from trees good for forestry lesson or plant science

Freightliner, http://www.freightliner.com
Good site to get info off of for a diesel or ag mech. class lots of engine info

Grainger http://www.grainger.com
Order book for mechanical supplies gives prices and little info on some tools

Denison Hydraulics http://www.denisonhydraulics.com
Lots of info on hydraulic systems and how they work plus schematics

HECO http://www.heco.net
Motor and pump company that gives info on what else motors and pumps

Fannosaw, http://www.fannosaw.com
Website that talks about all the different types of pruning saws good for tool identification

Reliance, http://www.reliance.com
Information on everything from electricity to motors to drive systems

UDOR, http://www.udor.com
Pumps for ag and also has schematics on some pump parts

Rainbird, http://www.rainbird.com
Irrigation and services of rainbird and any info you need on sprinklers, etc.

Agrisurf, http://www.agrisurf.com meta site link for access to other sites dealing with Ag.

Trimble, http://www.trimble.com
Deals with the GPS system for farming to make it easier for the farmer, just info on GPS.

New Holland, http://www.newholland.com
Deals with their equip and their co.

Vickers, http://www.vickers-systems.com
Deals with hydraulics

Sears, http://www.sears.com
Many sites, can go to projects get ideas